A Locking Clamp That Enables High Thermal and Vibrational Stability For Kinematic Optical Mounts

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Technology description

Invention:
This technology is a simple apparatus that reduces the angular drift of an optical mount when subjected to thermal or vibrational perturbations. The novel device provides inexpensive mounts with the ability to achieve <2 µrad/C drift when exposed to unbalanced thermal shock either to one part of the mount itself or to the entire optical system.

Background:
Current commercial kinematic optical mounts suffer from instability when exposed to fluctuations in temperature and vibrations. Often, the only way to mitigate the negative effects of such perturbations is through purchasing expensive high-end custom mounts.

Application area

Kinematic optical mounts

Advantages

Ease of use
Inexpensive
Can be used with existing kinematic mounts

Institution

University of Arizona

Inventors

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